AMENDMENTS TO THE CLAIMS

The following is a complete, marked-up listing of revised claims with a status identifier in parenthesis, underlined text indicating insertions, and strike through and/or double-bracketed text indicating deletions.

LISTING OF CLAIMS

1. (Currently Amended) A method for recording a data stream having multiple reproduction paths on a recording medium, comprising:

checking whether total bit rate (TBR) of a data stream section pertaining to one path among multiple reproduction paths is lower than a minimum bit rate; and, if lower,

assigning an additional bit rate to the data stream section such that the TBR of the data stream section is not lower than said minimum bit rate, if the TBR is lower than the minimum bit rate; and

recording a multi-path data stream including the data stream section on a recording medium,

wherein the data stream section is a section which prohibits reproduction path re-change after reproduction path change, based on a buffering condition.

2. (Original) The method set forth in claim 1, wherein said minimum bit rate is determined to a value enough to prevent buffer underrun during changes in reproduction path.

3. (Original) The method set forth in claim 1, wherein said data stream section is a stream range referred by a plurality of entry points, each entry point pointing to an interval of said data stream section.

4. (Currently Amended) The method set forth in claim 3, wherein said assigning step assigns the additional bit rate is assigned to a stream interval pertaining to only one entry point.

5. (Currently Amended) The method set forth in claim 3, wherein said assigning step includes distributing the additional bit rate is distributed to a plurality of stream intervals within said data stream section.

6. (Original) The method set forth in claim 3, wherein said data stream section whose TBR is to be checked is overlapped with another adjacent data stream section in such a manner that at least one entry point is commonly owned by said two data stream sections.

7. (Original) The method set forth in claim 6, wherein a jump for path change during reproduction of the recorded multi-path data stream is allowed on every entry point.

8. (Original) The method set forth in claim 3, wherein said data stream section whose TBR is to be checked is not overlapped with another adjacent data stream section.

9. (Original) The method set forth in claim 8, wherein a jump for path change during reproduction of the recorded multi-path data stream is allowed on every data stream section not entry point.

10. (Original) The method set forth in claim 1, wherein said minimum bit rate is at least 24Mbps.

11. (Currently Amended) A computer-readable ~~recording~~ medium including a data stream ~~having~~ for managing multiple reproduction paths recorded thereon, wherein:

a total bit rate (TBR) of an arbitrary data stream section of one path among multiple reproduction paths is not lower than a minimum bit rate that is set to a value enough to prevent buffer underrun during changes in reproduction path, and

the data stream section is a section which prohibits reproduction path re-change after reproduction path change, based on a buffering condition.

12. (Currently Amended) The computer-readable recording medium set forth in claim 11, wherein said data stream section is a stream range referred by a plurality of entry points, each entry point pointing to an interval of said data stream section.

13. (Currently Amended) The computer-readable recording medium set forth in claim 12, wherein said data stream section is overlapped with another adjacent data stream section in such a manner that at least one entry point is commonly owned by said two data stream sections.

14. (Currently Amended) The computer-readable recording medium set forth in claim 13, wherein a jump for path change during reproduction of the recorded multi-path data stream is allowed on every entry point.

15. (Currently Amended) The computer-readable recording medium set forth in claim 12, wherein said data stream section is not overlapped with another adjacent data stream section.

16. (Currently Amended) The computer-readable recording medium set forth in claim 15, wherein a jump for path change during reproduction of the recorded multi-path data stream is allowed on every data stream section not entry point.

17. (New) An apparatus for recording a data stream having multiple reproduction paths on a recording medium, comprising:

a driver configured to drive an optical recording device to record data on the recording medium; and

a controller configured to control the driver to record the multi-path data stream including an arbitrary data stream section on the recording medium, a total bit rate (TBR) of the data stream section of one path among multiple reproduction paths is not lower than a minimum bit rate that is set to a value enough to prevent an abnormal condition during changes in reproduction path,

wherein the data stream section is a section which prohibits reproduction path re-change after reproduction path change, based on a buffering condition.

18. (New) The apparatus of claim 17, wherein the data stream section is a stream range referred by a plurality of entry points, each entry point pointing to an interval of said data stream section.

19. (New) The apparatus of claim 18, wherein the data stream section is overlapped with another adjacent data stream section in such a manner that at least one entry point is commonly owned by the two data stream sections.

20. (New) The apparatus of claim 19, wherein a jump for path change during reproduction of the recorded multi-path data stream is allowed on every entry point.

21. (New) The apparatus of claim 18, wherein the data stream section is not overlapped with another adjacent data stream section.

22. (New) The apparatus of claim 21, wherein a jump for path change during reproduction of the recorded multi-path data stream is allowed on every data stream section not entry point.

23. (New) An apparatus for reproducing a data stream having multiple reproduction paths on a recording medium, comprising:

a driver configured to drive an optical reproducing device to reproduce data on the recording medium; and

a controller configured to control the driver to reproduce the multi-path data stream including an arbitrary data stream section on the recording medium, a total bit rate (TBR) of the data stream section of one path among multiple reproduction paths is not lower than a minimum bit rate that is set to a value enough to prevent an abnormal condition during changes in reproduction path,

wherein the controller is configured to perform a jump operation for path change after a current reproducing point gets out of the data stream section which is a section which prohibits reproduction path re-change after reproduction path change, based on a buffering condition.

24. (New) The apparatus of claim 23, wherein the data stream section is a stream range referred by a plurality of entry points, each entry point pointing to an interval of said data stream section, and the controller is configured to control the jump operation by referring to one of the plurality of entry points.

25. (New) The apparatus of claim 24, wherein the controller is configured to control the jump operation such that the data stream section is overlapped with another adjacent data stream section in such a manner that at least one entry point is commonly owned by the two data stream sections.

26. (New) The apparatus of claim 25, wherein the controller is configured to control the jump operation such that a jump for path change during reproduction of the recorded multi-path data stream is allowed on every entry point.

27. (New) The apparatus of claim 24, wherein the controller is configured to control the jump operation such that the data stream section is not overlapped with another adjacent data stream section.

28. (New) The apparatus of claim 27, wherein the controller is configured to control the jump operation such that a jump for path change during reproduction of the recorded multi-path data stream is allowed on every data stream section not entry point.